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United States Department of Agriculture

BUREAU OF AGRICULTURAL ECONOMICS

SERVICE AND REGULATORY ANNOUNCEMENTS NO. 140

U. S. Department of Agriculture

UNITED STATES STANDARDS FOR GRADES OF CANNED PEAS

(Approved January 16, 1933)

DEPARTMENT OF AGRICULTURE,
Washington, D. C.

By virtue of the authority vested in the Secretary of Agriculture by the provision in the act of Congress entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1933, and for other purposes" (Public, No. 269, 72d Cong.), approved July 7, 1932, authorizing an inspection service for farm products, I, Arthur M. Hyde, Secretary of Agriculture, do prescribe and promulgate the following standards for grades of canned peas, to be in force and effect on and after January 10, 1933, and as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority. These standards shall supersede all standards for canned peas previously promulgated.

In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed in the city of Washington this 16th day of January 1933.



Arthur M. Hyde

Secretary of Agriculture.

DEFINITION

Canned peas are the canned vegetable prepared from the seed of the common or garden pea (*Pisum sativum*) by shelling, winnowing, and thorough washing, with or without grading as to size, with or without precooking (blanching), and by the addition, before sterilization, of the necessary quantity of potable water, with or without salt and sugar, packed in hermetically sealed containers, and sterilized by heat.

TYPES OF CANNED PEAS

Canned peas are of two types:

Early peas are peas of early maturing types.

Sugar peas (sweet peas) are peas of later maturing types and/or having a natural sweet flavor.

GRADES OF CANNED PEAS

U.S. Grade A (fancy) canned peas are prepared from fresh, young, very tender peas of the same type; are uniform in color and, unless declared to be ungraded for size, are uniform in size. They are surrounded by practically clear liquor; are practically free from skins, broken¹ peas, and other defects; possess the typical fresh flavor of succulent, immature peas; and score not less than 90 points when scored according to the scoring system outlined herein.

¹ The pea seed is considered unbroken if the two cotyledons are still held together by the skin even though the cotyledons may be cracked or partly crushed, or the skin split. Each major portion of a skin or cotyledon not included in the above definition is considered as a broken pea.

U.S. Grade B (extra standard or choice) canned peas are prepared from fresh peas of the same type, which are tender; are practically uniform in color and, unless declared to be ungraded for size, are practically uniform in size. They are surrounded by reasonably clear liquor; are reasonably free from skins, broken¹ peas, and other defects; possess a fresh pea flavor; and score not less than 75 points and need not score more than 89 points when scored according to the scoring system outlined herein.

U.S. Grade C (standard) canned peas are prepared from fresh peas of the same type, which are reasonably tender; are reasonably uniform in color and, unless declared to be ungraded for size, are reasonably uniform in size. They are surrounded by liquor which may be roily; are reasonably free from skins, broken¹ peas, and other defects; possess a good pea flavor; and score not less than 60 points and need not score more than 74 points when scored according to the scoring system outlined herein.

Off-Grade Quality (substandard) canned peas are canned peas which fail to meet the requirements of the foregoing grades, or, when any one of the grading factors, with the exception of **UNIFORMITY OF SIZE AND COLOR**, falls in the subdivision D, or, canned peas that fall below the standard promulgated under the terms of section 8, paragraph 5, of the Food and Drugs Act.

NOTE.—Certificates of grade issued under the United States Warehouse Act or the Farm Products Grading Law covering canned peas falling below the standard promulgated under the terms of section 8, paragraph 5, of the Food and Drugs Act, must bear the legend required under that act in the space for "Remarks."

PREREQUISITES TO GRADING

CONDITION OF CONTAINER

Containers shall be sound and clean. If the containers are metal, they shall be free from rust and serious dents, and the ends shall be flat or concave.

CONDITION OF PACKAGE AND LABEL

If cased, the canned peas shall be packed in clean, neat, unbroken packages. If labeled, the labels on the container and package shall be clean and shall be neatly and securely affixed, and shall comply in all respects with the requirements of the Food and Drugs Act.

FILL OF CONTAINER

Cans of peas will be considered as of standard fill if the head space, measured from the top of the product to the underside of the lid, does not exceed 10 percent of the total inside height of the container; and if the packing medium (added liquid) is not in excess of the quantity necessary for proper processing. Head space measurement of so-called "vacuum pack" peas is accomplished by measuring from the top of the double seam to the top of the product after pouring the contents from the container (breaking apart lumps if necessary), pouring them back, and leveling the surface as well as possible without moving the container or pressing downward on the contents.

A certificate of grade covering canned peas that do not meet the above requirements shall bear the legend,

"Below U.S. Standard"

"Slack Fill"

RELATION OF PEAS TO PACKING MEDIUM

Added liquid is excessive in canned peas when the proportion of free liquid in the product is such that, when the contents of the container are poured out and poured back into the container standing on a level surface, and the peas leveled without downward pressure, the liquid completely covers the peas.

A certificate of grade covering canned peas in which the above condition is found, whether or not the head space is excessive, shall bear at least the 2-line legend,

"Below U.S. Standard—Slack Fill"

"Contains Excess Added Liquid"

See footnote 1, p. 1.

The maximum head space allowable in the sizes commonly used in packing peas is shown in the accompanying table:

Can size	Can dimensions (in inches)		Maximum capacity in water at 68° F. (in ounces)	Maximum head space allowable (measured from top of double seam in six- teenths of an inch)
	Diameter	Height		
No. 1 (picnic).....	2 $\frac{1}{16}$	4	10.94	8.8
No. 1 tall.....	3 $\frac{1}{16}$	4 $\frac{1}{16}$	16.70	9.9
No. 300.....	3	4 $\frac{7}{16}$	15.22	9.5
No. 303.....	3 $\frac{3}{16}$	4 $\frac{9}{16}$	16.88	9.4
No. 2.....	3 $\frac{7}{16}$	4 $\frac{9}{16}$	20.55	9.7
No. 5.....	5 $\frac{1}{16}$	5 $\frac{9}{16}$	59.22	11.4
No. 10.....	6 $\frac{3}{16}$	7	109.43	13.6

ARTIFICIALLY COLORED PEAS

Certificates of grade covering canned peas that are artificially colored shall bear the following statement in addition to the statement of grade:

“Below U.S. Standard—Low Quality but not Illegal

Because Artificially Colored”

ASCERTAINING THE GRADE

The grades of canned peas may be ascertained by considering the following factors: clearness of liquor, absence of defects, uniformity of size and color, tenderness and maturity, and flavor of peas and liquor. The relative importance of each element has been expressed numerically on a scale of 100. The maximum number of credits which may be given for each factor is:

	Points
I. Clearness of liquor.....	15
II. Absence of defects.....	15
III. Uniformity of size and color.....	10
IV. Tenderness and maturity.....	35
V. Flavor.....	25
Total.....	100

NOTE: When grading so-called “vacuum-pack” peas, the factor of “clearness of liquor” shall be disregarded. The other four factors shall be scored, the total of which shall be multiplied by 100 and divided by 85 for the final score, dropping any fractions.

ASCERTAINING THE RATING OF EACH FACTOR

The essential variations within each factor are so described that the value may be ascertained for each factor and expressed numerically. The numerical ranges within each factor are inclusive. For instance, the range 12 to 14 means 12, 13, and 14.

I. Clearness of Liquor.

- (A) To receive a rating within the highest group, 13 to 15 points, for this factor, the liquor surrounding the peas must be practically clear; that is, presenting not more than a slight cloudiness.
- (B) If the liquor is reasonably clear, possessing but a small quantity of visible sediment, 11 to 12 points may be allowed.
- (C) If the liquor is somewhat roily, with an accumulation of sediment readily noticeable, or is slightly off color, 8 to 10 points may be allowed.
- (D) If the liquor is badly clouded, possessing a considerable quantity of sediment, or is badly off color, from 0 to 7 points may be allowed.

II. Absence of Defects.—This factor has reference to workmanship, care in preparation, and the degree of freedom from broken, off-colored, spotted peas, skins of peas, thistle buds, and other material that would ordinarily be removed in careful preparation.

- (A) Peas that are practically free from the defects mentioned may be given a credit of 14 to 15 points.
- (B) If the peas are reasonably free from such defects, from 11 to 13 points may be allowed.
- (C) If the defects are prominent, from 8 to 10 points may be allowed.
- (D) Peas in which the defects are decidedly prominent, in excess of 4 percent by count being off-colored (brown, brown spotted, white, or yellowish white), or in excess of 20 percent by count being broken, are entitled from 0 to 7 points credit.

III. Uniformity of Size and Color.—The various sizes of peas may be described as follows:

- No. 1 size peas are peas that will pass through a screen of $\frac{3}{32}$ -inch mesh.
- No. 2 size peas are peas that will pass through a screen of $\frac{19}{32}$ -inch mesh, but not through a screen of $\frac{9}{32}$ -inch mesh.
- No. 3 size peas are peas that will pass through a screen of $\frac{11}{32}$ -inch mesh, but not through a screen of $\frac{19}{32}$ -inch mesh.
- No. 4 size peas are peas that will pass through a screen of $\frac{1}{2}$ -inch mesh, but not through a screen of $\frac{11}{32}$ -inch mesh.
- No. 5 size peas are peas that will pass through a screen of $\frac{13}{32}$ -inch mesh, but not through a screen of $\frac{1}{2}$ -inch mesh.
- No. 6 size peas are peas that will fail to pass through a screen of $\frac{13}{32}$ -inch mesh.

NOTE.—If the peas are declared to be ungraded for size, the rating for this factor shall be based on "uniformity of color," and cognizance shall not be taken of lack of "uniformity of size".

- (A) Peas that are uniform in size and color may be given a credit of 9 to 10 points for this factor.
- (B) If peas are slightly lacking in such uniformity, from 6 to 8 points may be allowed.
- (C) Peas that are irregular in size and/or variable in color, may be given a credit of 3 to 5 points.
- (D) If peas are markedly irregular in size or markedly off color, from 0 to 2 points may be allowed.

IV. Tenderness and Maturity.

- (A) To receive a rating within the highest group, 32 to 35 points, for this factor, the peas must be very young and very tender.
- (B) If the peas are less tender than those of the first group, a score within the range of 28 to 31 points may be allowed.
- (C) If the peas have somewhat tough skins and are somewhat mealy or starchy, but require less than 2 pounds of pressure to crush the cotyledons to one fourth their original thickness, from 25 to 27 points may be allowed. Peas that fall in this classification shall not be graded above U.S. Grade C, or standard, regardless of the total score for the product.
- (D) If 10 percent by count of the peas are so mature that they require a crushing force of 2 pounds or more to crush the cotyledons to one fourth their original thickness, or the skins are very tough, from 0 to 24 points may be allowed.

V. Flavor.—The determination of flavor shall be based on the flavor of the product and shall be classified from the standpoint of palatability.

- (A) If the flavor is typical of very young, tender, succulent, fresh garden peas, a credit of 22 to 25 points may be allowed.
- (B) If the flavor is typical but not so pronounced as in (A) above, from 19 to 21 points may be allowed.
- (C) If the flavor is palatable, from 16 to 18 points may be allowed. Peas that fall in this classification shall not be graded above U.S. Grade C, or standard, regardless of the total score for the product.
- (D) If the product possesses an "off" flavor, from 0 to 15 points may be allowed.

U. S. DEPARTMENT OF AGRICULTURE

Bureau of Agricultural Economics

SCORE SHEET FOR CANNED PEAS

Certificate No. _____
 Lot or car No. _____
 Number of cases in lot _____ Can size _____

Applicant _____
 Address _____
 Samples submitted by _____

Can mark	Factors	Maxi- mum score	Points al- lowable																	
Label																				
Net weight (in ounces)																				
Vacuum																				
Type																				
Sifting																				
I. Clearness of liquor		15	(A) 13-15 (B) 11-12 (C) 8-10 (D) 0-7																	
II. Absence of defects		15	(A) 14-15 (B) 11-13 (C) 8-10 (D) 0-7																	
III. Uniformity of size and color		10	(A) 9-10 (B) 6-8 (C) 3-5 (D) 0-2																	
IV. Tenderness and maturity		35	(A) 32-35 (B) 28-31 (C) 25-27 (D) 0-24																	
V. Flavor		25	(A) 22-25 (B) 19-21 (C) 16-18 (D) 0-15																	
Total score		100																		
Grade																				

Remarks _____ Graded by _____ Date _____ Fee \$ _____

